contacting the protein with a cyclic saccharide cycloamylose having a degree of polymerization of 25 to 50 or 40 to 150, to produce a folded protein. See Claim 17/

The present invention also relates to a method of refolding a denatured protein, comprising:

contacting a polyoxyethylenic detergent with a denatured protein, followed by

contacting the protein with a cyclic saccharide cycloamylose having a degree of polymerization of 25 to 50 or 40 to 150, to produce a folded protein. See Claim 24.

The rejection of the claims under 35 U.S.C. §102(b) over Daugherty et al. is respectfully traversed. This reference fails to disclose the claimed kits or methods.

As recited in the claims, the cyclic saccharide cycloamylose has a polymerization degree of from 25 to 50 or 40 to 150. As discussed in the present specification, the cyclic saccharide cycloamylose recited in the claims is distinct from β-cyclodextrin described in the reference. β-cyclodextrin, in contrast to the cyclic saccharide cycloamylose recited in the pending claims, has a degree of polymerization of 6 to 8. See page 2, last two lines to the middle of page 3, of the present specification. As discussed at page 5, first full paragraph of the present application, the present invention is based on the discovery that the larger cyclic saccharide cycloamylose recited in the pending claims overcomes problems associated with β-cyclodextrin.

The Examiner cites Machida et al. in support of the rejection. However, this publication confirms that the cyclic saccharide cycloamylose recited in the pending claims is not β-cyclodextrin described by Daugherty et al. See the second full paragraph at column 2 of page 135 of Machida et al.

Thus, based on the foregoing, the β-cyclodextrin described by Daugherty et al. is not within the scope of the cyclic saccharide cycloamylose recited in the pending claims.

Accordingly, the reference fails to describe the claimed kits and methods. Withdrawal of this ground of rejection is respectfully requested.

The rejection of the claims under 35 U.S.C. §103(a) over Daugherty et al. taken with Takaha et al. is respectfully traversed. There references fail to suggest the claimed kits and methods.

As discussed above, Daugherty et al. describe the use of β-cyclodextrin, which does not fall within the scope of the pending claims.

Takaha et al. describe producing cycloamylose with potato D-enzyme (see the Abstract). Nothing in this reference suggests using the recited cyclic saccharide cycloamylose having a polymerization degree of from 25 to 50 or 40 to 150. in combination with the recited detergents for refolding proteins.

In addition, while it is known that β-cyclodextrin has an inclusion ability, an aqueous solution of this material is unstable due to low solubility and time-dependent decomposition. In contrast, the cyclic saccharide cycloamylose recited in the pending claims does not suffer from these defects.

In addition, it is difficult to predict (1) whether a cycloamylose with a specific degree of polymerization will actually include a specific substance or (2) whether the cycloamylose would exhibit any effect on protein refolding.

Based on the foregoing, the combination of Daugherty et al. and Takaha et al. fails to suggest the claimed kits and methods. Accordingly, withdrawal of this ground of rejection is respectfully requested.

The rejection of the claims under 35 U.S.C. §112, second paragraph, is believed to be obviated by the amendments submitted above. The claims have amended for clarity in accordance with the Examiner's helpful comments and suggestions. Accordingly, withdrawal of this ground of rejection is respectfully requested.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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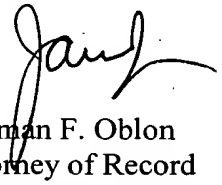

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Claims 1-8 (Cancelled)

Claims 9-30 (New)